

I claim:

1. Internal combustion engine comprising:

- (a) a cylinder,
- (b) a first bore in said cylinder,
- (c) a cylinder head adjacent one end of said cylinder,
- (d) a second bore extending through said cylinder head,
- (e) means adapted to discharge a fuel/air mixture into said second bore,
- (f) a first piston having a first end and a second end, said first piston extending into and slidably engaging said second bore or selectively standing outside of said second bore,
- (g) a main piston in said first bore and larger in diameter than said first piston, said main piston secured to the second end of said first piston and slidably engaging said first bore,
- (h) said fuel/air mixture in said second bore bearing against the first end of said first piston and forcing said first piston and said main piston secured thereto longitudinally in said cylinder,
- (i) whereby the exit of said first piston from said second bore permits said fuel/air mixture to enter the space in said cylinder between said main piston and said cylinder head,
- (j) ignition means extending into said first bore above said main piston and below said cylinder head,
- (k) whereby, upon ignition of said fuel/air mixture in the space between said main piston and said cylinder head, said main piston is forced by the products of combustion downwardly in said cylinder toward the bottom of its stroke,
- (l) a rotatable drive shaft.

(m) shaft rotating means operatively interposed between main piston and said drive shaft to cause rotation of said drive shaft upon longitudinal movement of said main piston in said cylinder.

2. Internal combustion engine as in claim 1, wherein said shaft rotating means comprises:

(n) a swash plate secured to said drive shaft,

(o) driving means connected to said compound piston assembly and engaging said swash plate.

3. Internal combustion engine as in claim 3, wherein said driving means comprises roller bearings rotatably mounted to said main piston and engaging said swash plate.

4. Internal combustion engine as in claim 1, wherein said drive shaft extends longitudinally through said compound piston assembly and said cylinder head.

5. Internal combustion engine as in claim 1 wherein said drive shaft extends transversely through said cylinder, said shaft rotating means comprising:

(n) a cam on said drive shaft,

(o) a crank having a first aperture through one end thereof and a second aperture through the opposite end thereof,

(p) a rod extending transversely through said cylinder and secured to said compound piston assembly,

(q) said first aperture in said crank rotatably receiving said rod,

(r) said second aperture in said crank rotatably receiving said cam.